





## Data Quality Course

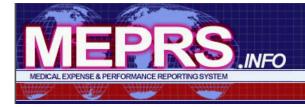
Deirdre Baker

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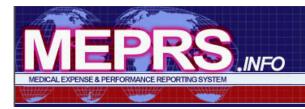


# **Objectives**

By the end of this presentation, you will:

- Know the origin and goals of Six Sigma.
- Identify how Six Sigma is used in healthcare and other industries.
- Be able to navigate through the Six Sigma MEPRS Management Metrics (S2M3) tool.
- Understand how individual MTF characteristics can affect its position among its peer group/cohort.







## Six Sigma

- Six Sigma is a statistics based business improvement process that continually strives for perfection.
- It employs a disciplined methodology created from the manufacturing industry for eliminating the wastes of defects or variance to lower costs and improve customer satisfaction.

# Six Sigma Methodology for Improving Existing Processes DMAIC

- Define Opportunities
- Measure Performance
- Analyze Opportunity
- Improve Performa
- Control Performa







## Six Sigma in Healthcare:

- ➤ DSI, a medical reference and toxicology laboratory improved turnaround time by 54% and cut costs by \$250,000 per year.
- Avera McKennan Hospital Emergency Department cut patient turnaround time by 29% and saved \$1.25 million in avoided construction costs.

## **Six Sigma in Other Industries:**

- Bank of America has used Six Sigma for credit risk assessment reduction, fraud prevention, and customer satisfaction improvement.
- In Engineering and Construction, on the Channel Tunnel Rail Link project in the UK, Bechtel's project team uncovered a way to save hundreds of job hours on one of the tunneling jobs.





### Six Sigma MEPRS Management Metrics (S2M3)



FY04 / 05 Update: Last Six Months of FY04 and 1st Six Months of FY05 All data obtained from the EAS IV Repository and M2 in July 2005



#### Click on a peer group below to view a specific metric:

Available FTE's per **Daily Occupied Bed**  Ratio of Support Personnel to **Provider FTEs** 

Rx Workload per Rx FTE

Lab Workload per Lab FTE \*

Rad Workload per Rad FTE

Inpatient Costs per **RWP** 

**Ambulatory Costs** per APG

Medical Cer Large Hospi Small Hosp Large Clini Small Clini Medical Cer Large Hosp Small Hosp Medical Cer Large Hospi Small Hosp Large Clini Small Clini

Medical Cer Large Hospi Small Hosp Large Clini Small Clini Medical Cer Large Hosp Small Hosp Large Clin Small Clini **Medical Centers** Large Hospitals Small Hospitals Large Clinics

Small Clinics

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\*Because there was a significant change in MHS Relative Value Units (RVUs) in EAS IV between CY04 and CY05, CY05 RVUs were applied to the raw workload for the entire analysis period.

#### **Executive Summary:**

Medical Centers Large Hospitals Small Hospitals Large Clinics **Small Clinics** 

#### Notes:

Six Sigma Description **Definition of Metrics Data Sources** Peer Group Definitions

#### External MEPRS Resources:

MEPRS Web Portal MEWACS MEPRS Manual DoD 6010.13-M Human System Interface (HSI)

#### MTF-Peer Group Lookup:

Air Force <u>Army</u> <u>Navv</u>







# FY04/FY05 Pharmacy Dispensing Cost per Script - Medical Centers

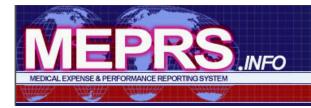
		I (II (III I)!·II() II/	TATAN AACTU		Costs	Script	£ SUIT
	0089	WOMACK AMC-FT. BRAG(	1,021,255	\$	3,445,042	\$3.37	-1.78
	0052	TRIPLER AMC-FT SHAFTE	661,161	\$	3,025,439	\$4.58	-0.97
	0067	NNMC BETHESDA	640,728	\$	3,249,500	\$5.07	-0.64
	0109	BROOKE AMC-FT. SAM HC	764,979	\$	3,960,212	\$5.18	-0.57
	0073	81st MED GRP-KEESLER	551,124	\$	2,856,371	\$5.18	-0.57
	0095	74th MED GRP-WRIGHT-PA	730,799	\$	3,829,162	\$5.24	-0.53
	0108	WILLIAM BEAUMONT AM	538,620	\$	2,856,706	\$5.30	-0.49
	0124	NMC PORTSMOUTH	1,449,458	\$	7,737,788	\$5.34	-0.46
	0047	EISENHOWER AMC-FT. GC	700,647	\$	4,551,094	\$6.50	0.31
	0029	NMC SAN DIEGO	1,338,301	\$	9,580,241	\$7.16	0.75
	0117	59th MED WING-LACKLAN	903,129	\$	6,751,300	\$7.48	0.97
	0037	WALTER REED AMC-WAS	599,174	\$	4,541,304	\$7.58	1.04
	0014	60th MED GRP-TRAVIS	501,714	\$	3,950,786	\$7.87	1.23
	0125	MADIGAN AMC-FT. LEWIS	951,211	\$	8,164,987	\$8.58	1.71

#### **Summary Statistics**:

Statistic	Raw Work	Rx \$ Less Supply Costs	Cost per Script
Mean	810,879	\$4,892,852	\$6.03
Median	715,723	\$3,955,499	\$5.32
SD	292,529	\$2,217,626	\$1.50

Value nearest peer group mean
MTFs within 1 Std. Deviation from the peer group mean
2 Std. Deviations above/below the peer group mean
3 Std. Deviations above/below the peer group mean



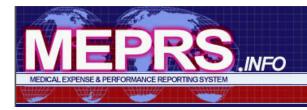




## Six Sigma MEPRS Management and Control Metrics FY04/FY05 S2M3 (Last Six Months of FY04 and First Six Months of FY05) Standardized Executive Summary by Peer Group\*

DMIS ID	MTF Name	Standardized Average
Medical Centers		
0109	BROOKE AMC-FT. SAM HOUSTON	0.60
0108	WILLIAM BEAUMONT AMC-FT. BLISS WOMACK AMC-FT. BRAGG	0.57 0.56
0052	TRIPLER AMC-FT SHAFTER	0.41
0124 0029	NMC PORTSMOUTH NMC SAN DIEGO	0.38 0.38
0067	NNMC BETHESDA 81st MED GRP-KEESLER	0.06 -0.02
0047	EISENHOWER AMC-FT. GORDON	-0.03
0125 0037	MADIGANAMC-FT. LEWIS WALTER REED AMC-WASHINGTON DC	-0.11 -0.29
0117 0095	59th MED WING-LACKLAND 74th MED GRP-WRIGHT-PATTERSON	-0.37 -0.97
0014	60th MED GRP-TRAVIS	-1.15







## Review

## You should now:

- Know the origin and goals of Six Sigma.
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- Be able to navigate through the Six Sigma MEPRS Management Metrics (S2M3) tool.
- Understand how individual MTF characteristics can affect its position among its peer group/cohort.









# Questions?

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